

**CALIFORNIA STATE LANDS COMMISSION**

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*Established in 1938*

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May 1, 2015

**NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT  
AND NOTICE OF PUBLIC SCOPING MEETING**

File Ref: SCH No. 2015051001  
CSLC EIR No. 782; W30119.2

**NOTICE IS HEREBY GIVEN** that the California State Lands Commission (CSLC), as Lead Agency under the California Environmental Quality Act (CEQA), will prepare an Environmental Impact Report (EIR), and that CSLC staff will hold a public scoping meeting pursuant to CEQA and the State CEQA Guidelines for the project listed below.\*

**Project Title:** VENOCO SOUTH ELLWOOD FIELD PROJECT

**Applicant:** Venoco, Inc. (Venoco or Applicant)

**Project Location:** In State waters, 2.4 miles offshore Coal Oil Point, Goleta, Santa Barbara County (**Figure 1**)

**Meeting Information:** **Tuesday, May 26, 2015;** sessions begin at **3 PM** and **6 PM**  
**Goleta Valley Community Center**  
5679 Hollister Ave.  
Goleta, CA 93117

The CSLC staff has prepared this Notice of Preparation (NOP) in order to obtain agency and the public's views, in writing and/or at the public meeting, as to the scope and content of the environmental analysis, including the significant environmental issues, reasonable range of alternatives, and mitigation measures that should be included in the EIR. Responsible agencies will need to use the EIR when considering related permits or other approvals for the Project. This Notice is also available online at [www.slc.ca.gov](http://www.slc.ca.gov).

**Written comments must be received or postmarked by June 5, 2015.\*\*** Please send your comments at the earliest possible date to:

\* CEQA is in Public Resources Code section 21000 et seq.; the State CEQA Guidelines are in California Code of Regulations, Title 14, section 15000 et seq. The public scoping meeting will be held pursuant to CEQA (§ 21083.9, subd. (a)(2)) and the State CEQA Guidelines (§§ 15082, subd. (c), and 15083).

\*\* Pursuant to State CEQA Guidelines section 15103, Responsible and Trustee Agencies shall provide a response to a NOP within 30 days after receipt of the notice.

Eric Gillies Assistant Division Chief Environmental Planning and Management California State Lands Commission 100 Howe Avenue, Suite 100-South Sacramento, CA 95825	<b>E-mail:</b> <a href="mailto:CEQAcomments@slc.ca.gov">CEQAcomments@slc.ca.gov</a> <b>FAX:</b> (916) 574-1885 <b>Phone:</b> (916) 574-1890
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## PROJECT SUMMARY<sup>1</sup>

Venoco's proposed South Ellwood Field Project (Project) includes the following components).

- **Lease Line Adjustment and Well Extension:** Venoco has requested that the CSLC amend State Oil and Gas Lease No. PRC 3242 (PRC 3242) by adjusting the easterly boundary of PRC 3242 to include approximately 3,400 acres in exchange for Venoco's quitclaim and release of approximately 3,800 acres of the northern and southern portions of PRC 3242 and PRC 3120 into the California Coastal Sanctuary (Figure 1). As shown in Figure 1, Venoco proposes to change the bottomhole locations of six existing wells on Platform Holly. The wells would extend into the adjusted lease area of PRC 3242 and would reach into areas with significant oil reserves.
- **Pipe Rack:** Venoco proposes to install a temporary pipe rack on Platform Holly to provide additional pipe storage and to stage the pipe in the proper alignment for use by the drilling rig. The pipe rack, to be constructed offsite, would consist of steel framing members attached to the drilling deck and a combination of grating and steel plate coverings, which would provide the actual storage surface for the pipe. The footprint of the pipe rack would be approximately 1,350 square feet, located on the interior of the platform, and it would rise approximately 21 feet above the drill deck. Installation on Platform Holly would take approximately 3 months. The pipe rack would be in place for the duration of drilling activities (as noted below, Venoco proposes to drill the sixth and final well in 2030).
- **Well Activities (Redrill):** Venoco proposes to plug and abandon the lower portion of six existing well bores. Once the wells are partially abandoned, each well would be directionally drilled, using existing conductor casings below the seafloor, to a new bottomhole location in the adjusted lease area. Venoco proposes using a top drive unit for drilling with both a cellulose/seawater and mineral oil based mud system for lubrication and drill cuttings removal. The length of the redrilled wells would be approximately from 15,000 to 23,000 feet long and drilled into, and produced from, the Monterrey formation. The application envisions a tentative schedule to drill the first of the six wells in 2017, the second well in 2018, the third well in 2019, with the fourth, fifth, and sixth wells between 2023 and 2030.
- **Drilling Waste and Disposal:** Venoco expects that drilling activity would generate approximately 40 barrels of cuttings per day and 220 barrels of

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<sup>1</sup> A Glossary of Terms is provided at the end of Attachment 1.

slurrified mud and cuttings per day (one barrel equals 42 gallons). Venoco plans to grind the drilled cuttings and dispose of them by injection into an approved Class II disposal well on the platform. Venoco would perform a mechanical integrity test on any injection wells used prior to using the well for injection and after every 15,000 barrels of fluid injected to ensure no fracturing of the receiving formation will occur.

- **Equipment and Personnel:** Venoco proposes to use existing and additional temporary equipment to conduct redrilling operations. The proposed redrilling operations would require approximately 18 additional personnel on Platform Holly. Normally scheduled boat trips would transport additional personnel to Platform Holly. In addition, a supply boat would be chartered during redrilling operations for approximately four resupply trips per week.
- **Production Activities:** Venoco expects that a combination of gas lift production and Electrical Submersible Pumps (ESPs) would be required to effectively produce oil and gas from the reservoir. Initial production would use gas lift, with eventual conversion to ESPs as production declines. Existing processing equipment and facilities would be used to process the increased oil production. Produced oil and water emulsion would be transported from Platform Holly to the Ellwood Onshore Facility (EOF) through an existing 3.03-mile-long, 6-inch-diameter subsea pipeline. No changes to the EOF are proposed as part of this Project. At maximum production during the proposed Project, the oil pipeline would carry 20,000 barrels per day of oil and water emulsion. Venoco has committed to not use hydraulic fracturing as part of this Project. As such, hydraulic fracturing will not be evaluated as part of this EIR. The use of hydraulic fracturing would require additional environmental analyses.
- **Processing Activities:** All oil and gas produced from Platform Holly would be processed at the EOF, which is located in the City of Goleta. The EOF is currently a legal non-conforming use (i.e., it does not comply with its current land-use designation of Open Space-Active Recreation or its zoning designation of Recreation). At its December 16, 2014, meeting, the Goleta City Council authorized its staff to notice a hearing to consider whether to order termination of the legal non-conforming EOF.
- **Project Duration:** The proposed Project, based on current technology and extraction methods, is expected to cease by 2055.

Attachment 1 provides more details of the proposed Project and the scope of the EIR.

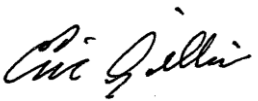
## **PUBLIC SCOPING MEETING**

Each session of the scoping meeting noticed above will begin with a brief presentation on the proposed Project. The CSLC staff will then receive comments on the potential significant environmental issues, Project alternatives, and mitigation measures that should be included in the EIR until all persons present who wish to provide oral comments have done so, at which time staff will close the session. If persons present are still providing comments 30 minutes before the scheduled start of the second

session, staff may suspend the first session, but will continue to take comments after the second session begins. A 3-minute time limit on oral comments may be imposed.

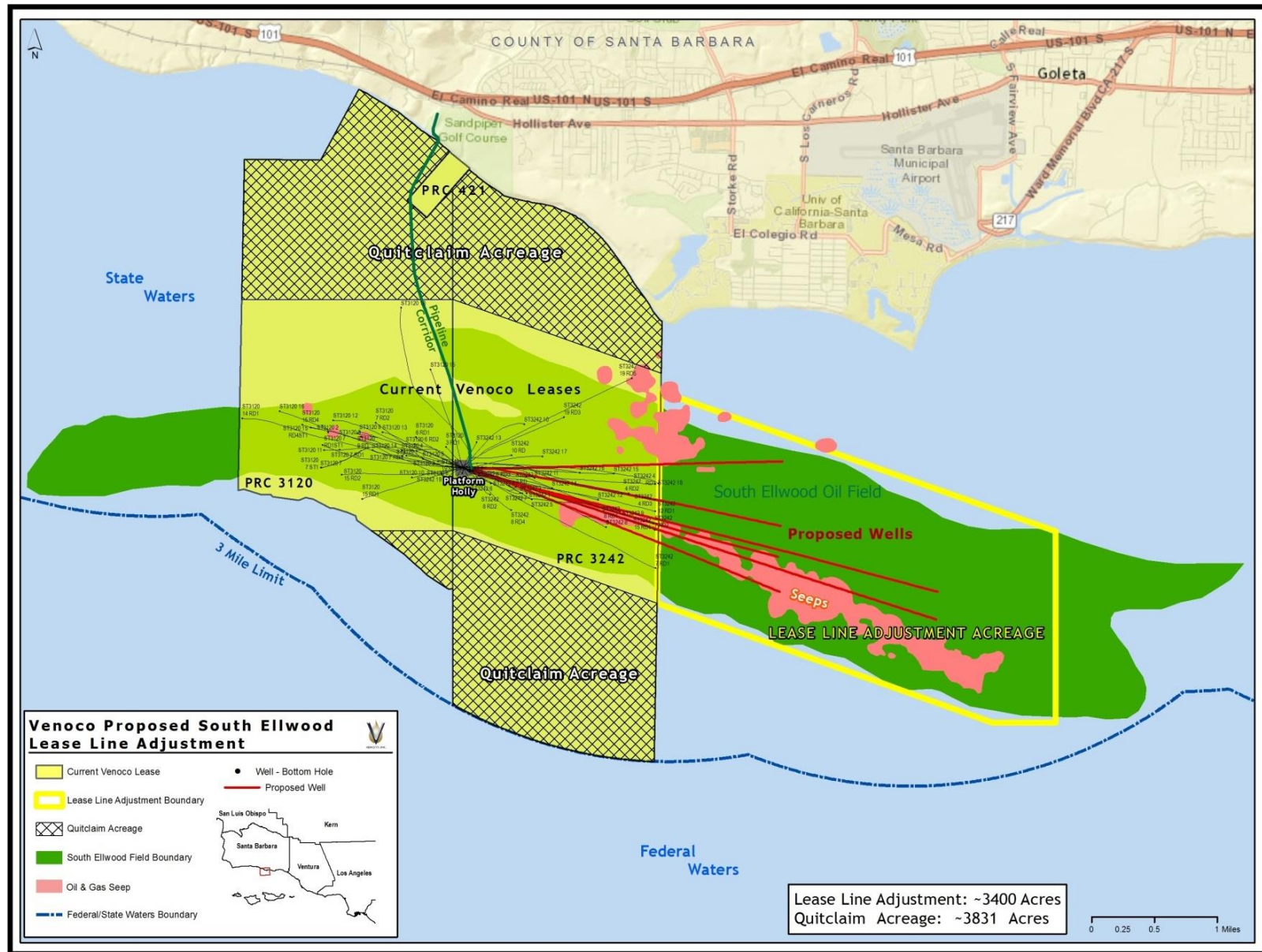
### IMPORTANT NOTES TO COMMENTERS

1. If you submit written comments, you are encouraged to submit electronic copies by e-mail to [CEQAcomments@slc.ca.gov](mailto:CEQAcomments@slc.ca.gov) and write “**Venoco South Ellwood Field NOP Comments**” in the subject line of your email. If written comments are faxed, please also mail a copy to ensure that a readable copy is received by this office.
2. Before including your mailing or email address, telephone number, or other personal identifying information in your comment, please be aware that the entire comment—including personal identifying information—may become publicly available, including in the EIR and posted on the Internet. The CSLC will make available for inspection, in their entirety, all comments submitted by organizations, businesses, or individuals identifying themselves as representatives of organizations or businesses.
3. If you represent a public agency, please provide the name, email address, and telephone number for the contact person in your agency for this EIR.
4. If you require a sign language interpreter, or other reasonable accommodation to conduct business with CSLC staff at the scoping meeting for a disability as defined by the Federal Americans with Disabilities Act and California Fair Employment and Housing Act, please contact the CSLC staff person listed in this NOP at least 48 hours in advance of the meeting to arrange for such accommodation.
5. Please contact the staff person listed in this NOP by phone at (916) 574-1890 or by email at [Eric.Gillies@slc.ca.gov](mailto:Eric.Gillies@slc.ca.gov) if you have any questions.

Signature:   
Eric Gillies  
Assistant Division Chief  
Environmental Planning and Management

Date: May 1, 2015

Figure 1. Project Location and Key Project Components



## **ATTACHMENT 1**

### **VENOCO SOUTH ELLWOOD FIELD PROJECT**

#### **1.0 PROJECT BACKGROUND AND LOCATION**

State Oil and Gas Lease PRC 3242 (PRC 3242), which is located offshore of the City of Goleta, was originally issued on April 8, 1965, to Atlantic Richfield Company (ARCO) and Mobil Oil Company. Venoco, Inc. (Venoco or Applicant) acquired the lease in August 1997, and has operated the onshore and offshore facilities since that time. Venoco also operates State Oil and Gas Lease Nos. PRC 421 and PRC 3120 (PRC 421 and PRC 3120). The boundaries of PRC 3242 do not encompass the eastern portion of the South Ellwood Field (see Figures 1 and 2). Historically, two Oil and Gas Leases (PRC 308 and 309) partially covered this portion of the South Ellwood Field, which was held by ARCO at the time. In 1991, ARCO quitclaimed these leases as part of a litigation settlement, and in 1994 the lease areas became part of the California Coastal Sanctuary.

Venoco has applied to the California State Lands Commission (CSLC) to amend Lease PRC 3242 to encompass a greater portion of the South Ellwood Field. As discussed in Section 2.1 below, Venoco is seeking an adjustment of the easterly boundary of PRC 3242 by approximately 3,400 acres in exchange for Venoco's quitclaim and release of approximately 3,800 acres of the northern and southern portions of PRC 3242 and PRC 3120 into the California Coastal Sanctuary. The portion of the South Ellwood Field operated by Venoco holds an estimated 1.2 billion stock tank barrels of oil. Approximately 75 million barrels of oil have been produced from Platform Holly since 1969, and Venoco estimates that 25 million barrels of recoverable oil remains to be produced within their existing leases. Venoco estimates another 60 million barrels of oil would be recoverable with the eastern boundary lease extension. Venoco estimates approximately 60 percent (36 million barrels) of the 60 million barrels, would be produced from within the existing PRC 3242 adjacent to the eastern lease boundary.

The Project would use Platform Holly and other existing facilities, including the Ellwood Onshore Facility (EOF), which is a legal non-conforming use in the City of Goleta (Figure 3).<sup>2</sup> Sections 1.1 through 1.7 below describe existing facilities and operations for production of the South Ellwood Field. If the CSLC does not approve the South Ellwood Field Project, existing operations would continue through the economic life of the field, estimated to be through year 2055, which is the same as the proposed Project.

#### **1.1 Platform Holly**

Platform Holly is a self-contained, triple-decked, oil drilling and production platform with 30 well slots (Table 1 lists current uses of the wells on Platform Holly). The platform is

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<sup>2</sup> In 2014, the Goleta City Council authorized its staff to consider termination of the non-conforming EOF which is where all PRC 3120 and 3242 oil and gas is processed (City of Goleta, City Council Public Hearings, December 16, 2014, and January 20, 2015) (see Section 4.2.7 below). The City of Goleta does not have any direct jurisdiction over State Oil and Gas Leases PRC 3120 or PRC 3242.



located in water approximately 211 feet in depth. A boat landing and heliport pad on the platform are at approximately 14 feet and 81 feet above sea level, respectively. Venoco uses an existing self-contained rig for well maintenance and well workover operations on the platform.

**Table 1: Current Use of Wells on Platform Holly**

<b>Well Use</b>	<b>Number of Wells*</b>
Gas Injection and Production	2
Produced Water Injection	3
Drill Cuttings Injection	1
Temporarily Abandoned	1
In Production or Waiting for Maintenance	23

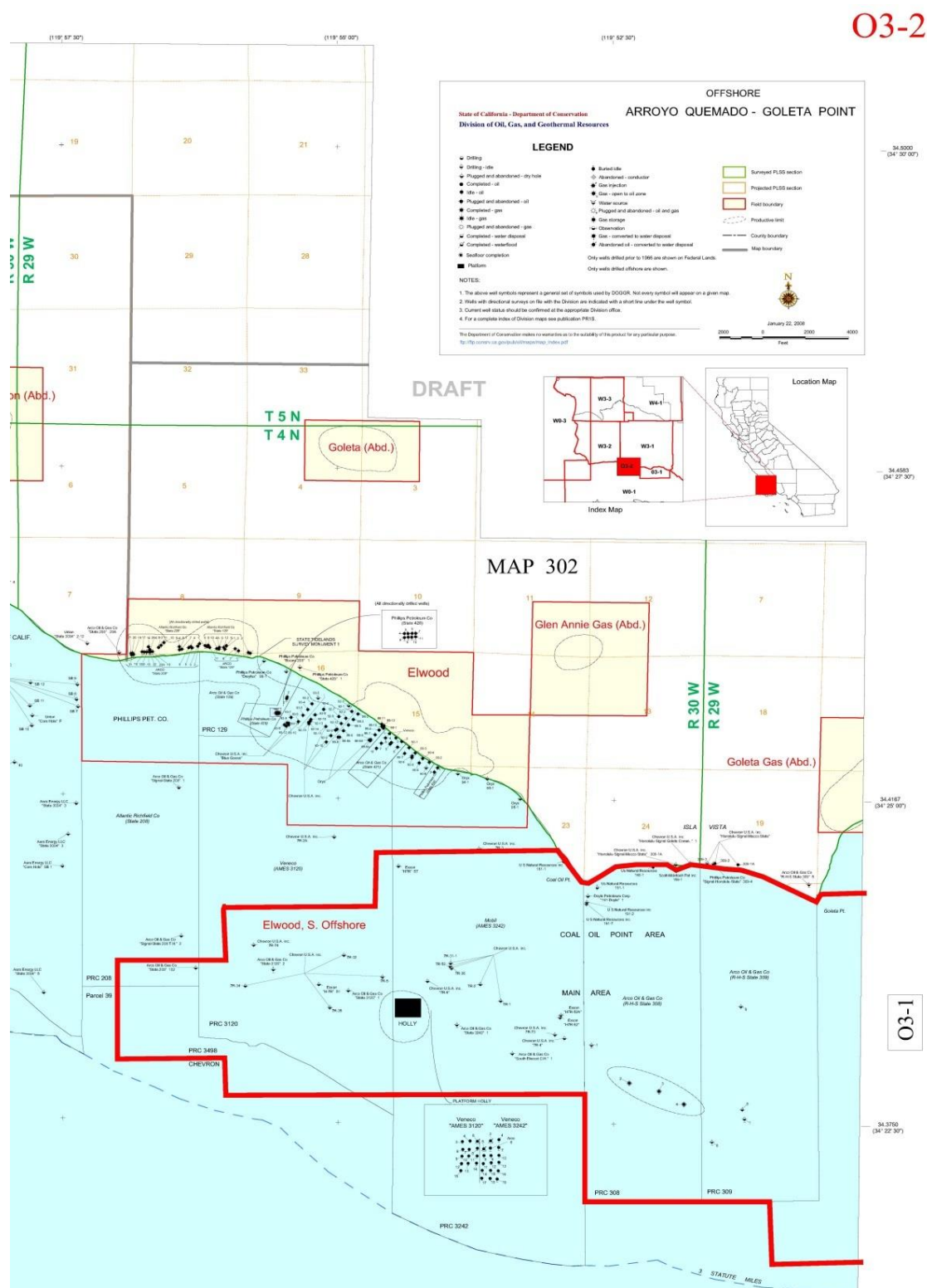
\* The number of producing and temporarily out of service wells fluctuates based upon well workover programs and reservoir characteristics.

As of April 2015, Venoco transfers approximately 7,100 barrels per day (BPD) of oil and water emulsion (3,600 barrels of oil and 3,500 barrels of water) and 2,500 thousand cubic feet per day (MCFD) of natural gas from Platform Holly to the EOF. Under existing permits, Venoco is authorized to send 20,000 BPD of oil and water emulsion and 20,000 MCFD of natural gas from Platform Holly to the EOF. Venoco separates some of the water from the oil and water emulsion on Platform Holly and re-injects the water into the Monterey formation via injection wells; the remaining water and oil in the emulsion are transported together in a subsea pipeline to the EOF. Natural gas produced on Platform Holly is compressed and dehydrated on the platform prior to being used as part of the Platform's gas lift system or transported to the EOF via a separate subsea pipeline. Figure 4 illustrates historic oil and gas production from Platform Holly since the 1960s: oil production has ranged from as high as 11,000 BPD to less than 1,000 BPD, while gas production has a similar range from 11,000 MCFD to less than 1,000 MCFD.

## **1.2 Primary Separation**

Platform Holly contains and uses two 3-phase separators for initial phase separation. The separators operate in parallel and separate natural gas and some water from the oil/water emulsion produced at the platform. Each can process up to 20,000 BPD of oil and water emulsion and 14,000 MCFD of produced gas for a total of 40,000 BPD of oil and water emulsion and 28,000 MCFD of produced gas. An oil dehydrator on Platform Holly is used to further dry the oil and water emulsion before it is sent to the EOF, via the Holly oil pipeline. The water that is removed from the oil and water emulsion via the 3-phase separators and/or the oil dehydrator then flows to the water surge drum, which is designed for a 22,000 BPD throughput. Water is then pumped from the water surge drum to the three water injection wells on Platform Holly for injection.

**Figure 2. South Ellwood Field Delineated by DOGGR<sup>3</sup>**

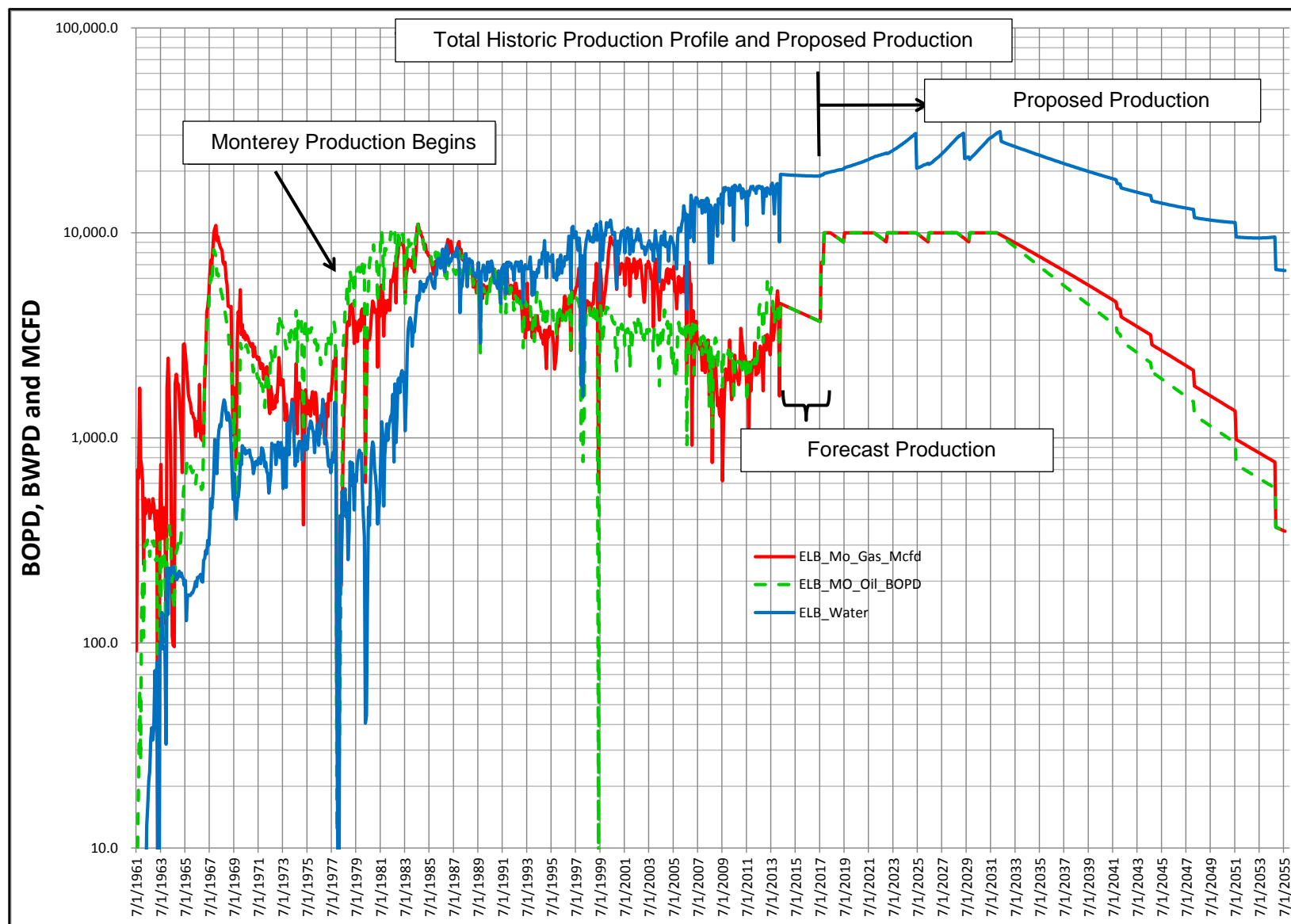




**Figure 3. Existing Facilities Associated with Platform Holly**



**Figure 4. Historic and Proposed Production from Platform Holly**



LLA = lease line adjustment; BOPD = barrels of oil per day; BWPD = barrels of water per day; MCFD = thousand cubic feet per day.

### **1.3 Vapor Recovery, Gas Compression, and Dehydration**

Platform Holly contains a vapor recovery system that collects natural gas vapors from various sources at low pressure and compresses the gas so that it can be combined with the natural gas production stream. Low-pressure gas streams collected by the Vapor Recovery system include casing gas, emulsion surge tank vapors, and glycol still vapors. Natural gas collected from the 3-phase separators and vapor recovery sources is routed to a glycol absorption treatment system to remove water. Once the water is removed, some gas is routed to the gas pipeline to shore for treatment at the EOF. The remaining gas is compressed for reuse as lift gas or re-injected into the reservoir.

### **1.4 Holly Oil Pipeline and Gas Pipeline**

Oil and water emulsion is transported from Platform Holly to the EOF through an existing 3.03-mile-long, 6-inch-diameter subsea pipeline that is rated for an operating pressure of 650 pounds per square inch (psig) and currently operates at 150 psig. At maximum production during the proposed Project, the oil pipeline would carry 20,000 BPD of oil and water emulsion. Under this maximum scenario, the estimated oil pipeline pressure would be 300 psig. Produced gas is transported to shore via a separate existing 3.04-mile-long, 6-inch-diameter subsea pipeline that is rated for an operating pressure of 650 psig and currently operates at a pressure of 110 to 160 psig. At maximum production during the proposed Project, the gas pipeline would transfer 13,000 MCFD of gas, which would result in an operating pressure of 225 psig.

### **1.5 Ellwood Onshore Facility**

No changes to the EOF are proposed as part of this Project. The EOF was built between 1965 and 1967. In 1990, the County of Santa Barbara changed the site's land use and zoning designations to Open Space-Active Recreation and Recreation, respectively. The site has been located in the City of Goleta since the city's incorporation in 2002. The EOF is considered a legal non-conforming use since it operated prior to rezoning but does not comply with current land-use or zoning codes.

The EOF receives wet oil from Platform Holly via the Holly oil pipeline. The EOF separates the remaining water from the oil and water emulsion by preheating the emulsion in an emulsion/hot oil (Therminol) exchanger followed by separation in a heater-treater. The emulsion is chemically treated in the heater-treater, which allows the water to settle. The separated water is then injected into the WD-1 injection well at the EOF. The dry crude oil from the heater-treater is stripped of hydrogen sulfide ( $H_2S$ ) to approximately 65 ppm by weight of  $H_2S$ . The crude oil then goes to a surge tank where it is metered for sales and shipped out of the EOF using the Line 96 Pipeline.

The EOF receives wet gas from Platform Holly via the Holly gas pipeline. At the EOF, the gas is separated from liquids in the gas pipeline (heavier hydrocarbons are removed, routed to two 40,000 gallon storage vessels, and trucked to area refineries), "sweetened" ( $H_2S$  is removed), refrigerated to remove any remaining heavier

hydrocarbons, processed to remove carbon dioxide, compressed, sold, and transported via the Ellwood Sales Gas Pipeline to the Gas Company transmission line.

## 1.6 Line 96

Line 96, which was completed in 2012, is an 8.5-mile-long oil pipeline that connects to the Plains All American Pipeline System west of Las Flores Canyon approximately 9 miles west of Goleta. Line 96 can handle up to 20,000 BPD of processed crude oil.

## 2.0 PROJECT DESCRIPTION

Venoco proposes to redrill up to six existing wells from Platform Holly into the adjusted lease area for oil production. Figure 1 shows the Project location, proposed lease line adjustment area, and proposed wells for redrilling. There are 30 well slots on Platform Holly, and all have been used to drill wells in Leases PRC 208 (quitclaimed August, 2003), PRC 3120, or PRC 3242. No new well slots would be added, and Venoco will not perform hydraulic fracturing on any proposed wells. Platform Holly oil would be transported by existing pipeline to the EOF, where the oil would be processed. Venoco also states that the proposed additional oil production will not extend the life of Platform Holly or the EOF. The proposed Project differs from a prior application for the "Full Field Development Project," which Venoco submitted to the CSLC, County of Santa Barbara, and City of Goleta in 2005, and subsequently withdrew in 2010 (see Table 2).

**Table 2: Differences between Proposed 2005 Full Field Development Project and Proposed 2014 South Ellwood Field Project.**

Major Project Components	Full Field Development Project (2005)	South Ellwood Field Project (2014)
<b>PRC Lease Line Adjustments:</b>		
PRC 3120 boundary extension	Yes	No
PRC 3242 boundary extension	Yes	Yes
Quitclaim portions of PRC 3120 & PRC 3242	No	Yes
<b>Platform Holly / Other Offshore Components:</b>		
New Well Slots (30 existing well slots)	0	0
New Wells	20	0
Existing Well Redrills	20	6
Proposed Oil Production Level (BPD)	12,600	10,000
Electrical Submersible Pump Powerhouse	Yes	No
Removal of Drilling Power Generators	Yes	No
Temporary Pipe Rack	No	Yes
Offshore Power Cable Upgrade	Yes	No
Non-operational Utility Line Repair	Yes	No
<b>Onshore Components:</b>		
Requires EOF Modifications	Yes	No
New Onshore Oil Pipeline	Yes	No

Venoco's current proposed Project Description has six components: lease line adjustment and well extension, pipe rack installation, drilling activities, drilling waste and disposal, equipment and personnel, and production activities.

## **2.1 Lease Line Adjustment and Well Extension**

Venoco is seeking an amendment to Lease PRC 3242 to adjust the easterly boundary to encompass a greater portion of the South Ellwood Field.<sup>4</sup> In addition to extending the eastern boundary of PRC 3242, which would cover approximately 3,400 acres of the eastern portion of the South Ellwood Field, Venoco would quitclaim approximately 3,831 acres of the northern and southern portions of PRC 3242 and PRC 3120 (Figure 1). This new configuration of PRC 3242 and PRC 3120 would result in approximately 431 net acres added to the California Coastal Sanctuary. If the CSLC approves the lease amendment as proposed, Venoco would implement the South Ellwood Field Project, as described in Section 2.0, Project Description.

Venoco proposes to change the bottomhole locations of six existing wells on Platform Holly. The wells would extend into the adjusted lease area of PRC 3242 and would reach into identified fault compartments with significant oil. The length of the redrilled wells would range from approximately 15,000 feet to 23,000 feet each.

## **2.2 Pipe Rack**

Venoco proposes to install a temporary pipe rack on Platform Holly to provide additional pipe storage and to stage the pipe in the proper alignment for use by the drilling rig. The pipe rack would consist of steel framing members attached to the drilling deck and a combination of grating and steel plate coverings, which provide the actual storage surface for the pipe. The surface area of the pipe rack would be approximately 1,350

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<sup>4</sup> In 1994, the California legislature passed the California Coastal Sanctuary Act generally prohibiting the lease of any State Tidelands for oil and gas development (Pub. Resources Code, § 6240 et seq.). The Public Resources Code specifies, however, that the prohibition on oil and gas development within the Sanctuary may be subject to three exceptions. The following is one of the exceptions relevant to the tidelands offshore of Santa Barbara County and the proposed Project:

- The State Lands Commission may adjust the boundaries of existing oil and gas leases to encompass all of a field partially contained within the existing lease subject to specific findings (Pub. Resources Code, § 6872).

Public Resources Code section 6872 allows for the CSLC to approve a lease boundary extension if it makes certain findings. The findings are as follows:

- The adjustment will permit more efficient utilization of State resources;
- The adjustment would not increase the number or size of existing platforms, except that modifications to a platform within the existing boundaries of a lease shall be permitted where modifications are reasonably necessary for development of all of the resources within the reconfigured lease;
- The adjustment would not require the construction or major modification of a refinery in this State to handle the increase in production resulting from the boundary adjustment, unless the construction or major modification is to a field production facility servicing the lease; and
- The adjustment is the environmentally least damaging feasible alternative for the extraction and production of the affected resources.

square feet, and the pipe rack would rise approximately 21 feet above the drill deck. The pipe rack would be constructed offsite, and then brought to Platform Holly for installation. Installation on the platform would take approximately 3 months. The pipe rack would be in place for the duration of drilling activities (as noted in Section 2.3 below, Venoco proposes to drill the sixth and final well in 2030).

### **2.3 Well Activities (Redrills)**

Venoco proposes to use six of the 30 existing well slots on Platform Holly for the Project. Specifically, Venoco proposes to partially plug and abandon the lower portion of six existing well bores with cement prior to redrilling using the existing platform rig. Once the wells are abandoned, each well would be directionally drilled, using existing conductor casings below the seafloor, to a new bottomhole location in the expanded portion of the field. A top drive unit will be used for drilling both cellulose/seawater and mineral oil-based mud systems for lubrication and drill cuttings removal. No muds and cuttings from the Project would be discharged into marine waters; the muds and cuttings will be injected into an approved Class II disposal well on the platform (see Section 2.4).

Mobilizing equipment and preparing the drilling rig for operations would take 10 days and at the conclusion of well completion, demobilizing the drilling rig and equipment would also take 10 days. Abandonment, redrilling, and well completion activities would take between approximately 114 and 131 days of work per well. The application envisions a tentative schedule to drill the first of the six wells in 2017, the second well in 2018, the third well in 2019, with the fourth through sixth wells between 2023 and 2030.

### **2.4 Drilling Waste and Disposal**

Venoco expects that drilling activity would generate approximately 40 BPD of cuttings and 220 BPD of slurrified mud and cuttings. For a 15,000-foot well, drilling would produce 16,500 barrels of slurrified waste, for a 23,000-foot well, drilling would produce 21,500 barrels of slurrified waste. Platform Holly presently operates, and would continue to operate, in a zero discharge mode, which means that no waste, including drill muds and cuttings, would be discharged into the ocean. Venoco proposes to grind the produced cuttings and dispose of them by injection into an approved Class II disposal well on the platform. Due to the relatively high economic value for mineral oil-based drilling muds, Venoco plans to ship any mineral oil-based muds used back to the vendor for recycling; any non-recycled mineral-oil based muds would be injected with the rest of the slurrified drilling waste.

### **2.5 Equipment and Personnel**

Venoco proposes to use existing and additional temporary equipment to conduct redrilling operations. The proposed redrilling operations would require approximately 18 additional personnel on Platform Holly. Normally scheduled boat trips would transport additional personnel to Platform Holly. In addition, a supply boat would be chartered during redrilling operations for approximately four resupply trips per week.



## 2.6 Production Activities

Venoco expects that a combination of gas lift production and Electrical Submersible Pumps (ESPs) would be required to effectively produce oil and gas from the reservoir. Initial production would use gas lift, with eventual conversion to ESPs as production declines. Existing processing equipment and facilities would be used to process the increased oil production.

Venoco currently uses three injection wells on Platform Holly for water injection; Venoco estimates that up to two additional injection wells would be necessary to inject water produced as part of the Project. Some wells on Platform Holly are reaching the end of their productive life for oil and gas production. Venoco plans to use these wells for water injection during the Project. See Section 1.0 above for a description of existing equipment and facilities. Venoco expects that implementation of the Project would result in increasing oil production from the current approximately 3,600 BPD to a maximum production of 10,000 BPD,<sup>5</sup> which is within the design capacity throughput for Platform Holly and the EOF. The volume of oil produced per day would decline over time as the recoverable oil is depleted and the relative proportion of water in the oil and water emulsion increases (Figure 4). As stated above, Venoco has no plans to perform hydraulic fracturing on any of the proposed wells.

## 3.0 PERMITS AND PERMITTING AGENCIES

In addition to action by the CSLC, the Project may also require permits and approvals from other reviewing authorities and regulatory agencies that may have oversight over aspects of the proposed Project activities, including but not limited to the following.

Local & Regional	Santa Barbara County Air Pollution Control District (SBCAPCD)
State	California Coastal Commission (CCC)
	California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR)

## 4.0 SCOPE OF THE EIR

Pursuant to section 15060 of the State California Environmental Quality Act (CEQA) Guidelines, the CSLC staff conducted a preliminary review of the proposed Project and determined that an Environmental Impact Report (EIR) was necessary based on the potential for significant impacts resulting from the proposed Project. Because Commission staff determined that an EIR is clearly required for this Project, an initial study was not prepared. A preliminary list of environmental issues and alternatives to be discussed in the EIR is provided below. Additional issues and/or alternatives may be identified at the public scoping meeting, and in written comments, as part of the EIR process. The CSLC invites comments and suggestions on the scope and content of the environmental analysis, including the significant environmental issues, reasonable range of alternatives, and mitigation measures that should be included in the EIR.

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<sup>5</sup> Production from Platform Holly combined with any pending production from Oil and Gas Lease PRC 421 processed at the EOF would be within the permitted capacity of the EOF at 13,000 BOPD.

Describing the existing environmental setting is important in establishing the baseline to determine significant effects from the proposed Project (State CEQA Guidelines, § 15125, subd. (a)). Because South Ellwood Field production from Platform Holly is a continuous and ongoing operation, the impact analyses will examine the changes in production as a result of redrilling into the extended boundary area, which could lead to a significant increase in daily production of oil and gas and would create the potential for a greater magnitude spill.

For purposes of the EIR, due to fluctuations in production (Figure 4), the EIR will use a 5-year average (2010 to 2015) production rate as a baseline, which amounts to just over 3,400 BPD. This 5-year period includes recent low production years (2010-2011) as well as higher production years (2012-2013) due to recent redrills within the existing lease boundary. The average oil and gas production from 2010 to 2014 is slightly lower than the 2015 average daily production (approximately 3,600 BPD). The 5-year average provides a conservative baseline which ensures that the impact analyses will encompass a sufficiently large breadth, since the lower the baseline level of operations the greater the difference between the baseline and the Project. CSLC staff believes that a baseline that accounts for oil and gas production over several years provides a more accurate measure of the current production levels (the differences between which are statistically insignificant) against which to evaluate Project impacts. Further, the most recent 5-year period leading up to this NOP was evaluated by CSLC staff and is believed to best reflect recent overall levels of oil and gas production and to be appropriate and consistent with CEQA as the environmental baseline for the analysis.

The CSLC uses the following designations when examining the potential for impacts according to CEQA issue areas.

<b>Significant Impact</b>	Any impact having a substantial, or potentially substantial, adverse change in the environment, and for which feasible mitigation must be identified and implemented. If any significant impacts are identified that cannot be mitigated to a less than significant level, the impact would be <i>significant and unavoidable</i> ; if any significant impacts are identified for which feasible, enforceable mitigation measures are developed and imposed to reduce the impacts below applicable significance thresholds, the impact would be <i>less than significant with mitigation</i> .
<b>Less Than Significant Impact</b>	Any impact that would not be considered significant under CEQA relative to the applicable significance threshold, and therefore would not require mitigation.
<b>No Impact</b>	The Project would not result in any impact to the associated environment.
<b>Beneficial Impact</b>	The Project would provide an improvement to the associated environment in comparison to the baseline information.

The estimations of impact levels used for this Notice of Preparation are based solely on preliminary documents. Impact levels may change and additional impacts may be identified during preparation of the EIR as more information is obtained.

#### **4.1 EIR Alternatives Analysis**

In addition to analyzing the potential impacts associated with the proposed Project, in accordance with the State CEQA Guidelines, an EIR must:

*...describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives (§ 15126.6).*

The State CEQA Guidelines also require that the EIR evaluate a “no project” alternative and, under specific circumstances, designate an environmentally superior alternative from among the remaining alternatives. Alternatives will be identified as a result of the environmental analysis and on information received during scoping. The EIR will:

- provide the basis for selecting alternatives that are feasible and that would reduce significant impacts associated with the proposed Project;
- provide a detailed explanation of why any alternatives were rejected from further analysis; and
- evaluate a reasonable range of alternatives including the “no project” alternative.

Alternatives to be evaluated in the EIR include the following:

- No Project Alternative
- Processing on Platform Holly
- Processing Production at the Las Flores Canyon Processing Facility

Alternatives that will likely be rejected from consideration in the EIR due to technical infeasibility or other issues, which would be discussed in the EIR, include the following:

- Onshore Drilling Locations
- Construction of a New Offshore Platform
- Onshore Gas Pipeline to Las Flores Canyon
- Alternative Energy Sources

#### **4.2 Currently Identified Potential Environmental Impacts**

Based on initial internal scoping, the Project is not anticipated to affect the following environmental factors identified in State CEQA Guidelines Appendix G (Environmental Checklist Form), which could therefore be eliminated from consideration in the EIR.

- Agricultural and Forest Resources
- Public Services
- Noise
- Transportation/Traffic
- Population and Housing
- Utilities and Service Systems

The following provides information on the currently identified issues that may have potentially significant environmental effects.

#### **4.2.1 Hazards and Hazardous Materials**

The EIR will address potential upset conditions during Project redrilling and operation that could result in release of oil or hazardous materials, fire, explosion or other conditions that could be hazardous to the public and environment. The EIR will also address the handling, storage, and disposal of hazardous materials (e.g., petroleum products, solvents, drilling muds and cuttings, and otherwise regulated chemical materials) that could result from primary Project activities. This analysis will also briefly discuss area resources that could be affected by the operation of secondary Project components (existing and approved facilities not proposed for modification) such as the operation of the EOF and the Line 96 pipeline, particularly as related to accidental oil release. Detailed analyses of impacts of upset conditions on specific resources will be addressed in their respective sections (e.g., Biological Resources, and Hydrology, Oceanography and Water Quality). Potential safety hazards of the Project and alternatives will be based on a change from existing conditions.

#### **4.2.2 Biological Resources**

The EIR will describe the marine resources in the Project vicinity and the Southern California Bight and the potential impacts the Project could have on those resources. The Environmental Setting section will describe marine resources in the Southern California Bight because a large oil spill could have wide-ranging environmental effects throughout Southern California waters, and not just in the Santa Barbara Channel. Operational impacts to biological resources would be limited to accidents, including an oil spill. Commercial fishing will be discussed in the Marine Biology section of the EIR.

The EIR will also describe terrestrial biological resources in the Project vicinity, including local habitats, communities, and sensitive species. The analysis will focus on terrestrial biological resources that may be impacted by an accident or oil spill from Platform Holly and subsequent oil spill cleanup activities.

#### **4.2.3 Air Quality**

The EIR will summarize the current air quality conditions in the Project vicinity as well as the regulatory setting related to air quality in the Project area. The analysis of air quality impacts will likely follow guidelines provided by the Santa Barbara County Air Pollution Control District (SBCAPCD). The EIR will analyze potential impacts to air quality from redrilling activities. Emission sources for the Project include operations of a diesel crane, three natural gas-fired generator engines, and supply and crew vessels. The Project would generate criteria air pollutants and greenhouse gases (GHGs; see Section 4.2.5) during redrilling activity and oil production.

#### **4.2.4 Geology**

The EIR will evaluate the potential geological hazards that could result in impact to workers or Project infrastructure over the expected 40-year production horizon of the South Ellwood Field. The geologic impacts of the Project would be associated with seismic hazards and seismically induced hazards, including earthquakes, ground shaking, and tsunamis. Due to the increase in injecting muds and cuttings as part of the Project, this section will examine any potential impact to seismicity in the area. This section will also discuss production from the lease areas and natural oil and gas seeps in the area.

#### **4.2.5 Greenhouse Gas Emissions**

The EIR will analyze potential impacts on GHG emissions from Project activities. The analysis of GHG emissions will follow guidelines provided by the SBCAPCD. Emission sources for the Project include operations of a diesel crane, three natural gas-fired generator engines, and supply and crew vessels. The Project would generate GHGs during redrilling and production activity.

#### **4.2.6 Hydrology, Oceanography, and Water Quality**

The EIR will address potential impacts on marine hydrology, water resources, and water quality resulting from the South Ellwood Field Project. The environmental setting focuses on the most relevant characteristics of existing marine resources in the Project vicinity. Issues such as offshore currents and marine water quality are important in understanding the effects of a possible accidental release of oil, drilling muds and cuttings, or other hazardous materials on these resources. This section will analyze existing information from various agencies including Santa Barbara County, RWQCB, National Oceanic and Atmospheric Administration (NOAA), and Scripps Institute of Oceanography.

Impacts to water quality during production would be associated with an accident or upset resulting in an oil spill. The degree of impact from an oil spill is influenced by many factors including, but not limited to, spill location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the resource, and response capability.

#### **4.2.7 Land Use, Planning, and Recreation**

The EIR will provide details on existing land use, planning, and recreation conditions in the Project vicinity, outline offshore sanctuaries and marine protected areas in the Project vicinity, and summarize potential land use, planning, or recreation impacts associated with the Project. Information in this section will be primarily based on the: California Coastal Act; Marine Life Protection Act; City of Goleta General Plan/Coastal Land Use Plan (GP/CLUP) Land Use, Open Space, and Conservation Elements; City of Goleta Coastal Zoning Ordinance; City of Goleta GP/CLUP EIR; and Santa Barbara County Comprehensive and Coastal Plans.

Recreational impacts from accidental oil releases and oil spill cleanup activities could preclude the use of nearby marine waters, beach areas and associated activities for a

limited period of time. The degree of impact is influenced by many factors including, but not limited to, spill location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the resource, and response capability.

The EIR will discuss the Project as it relates to the Santa Barbara County's consolidation policy (Zoning Code, Art. II, § 35-154) and City of Goleta's policies (LU 10.1 and LU 10.3). The EIR will also provide the status of the legal non-conforming use of the EOF and the City's efforts to terminate the legal non-conforming use of the EOF through newly passed ordinances by the City in December 2014 and January 2015.

#### **4.2.8 Cultural Resources**

The EIR will describe the cultural resources along the Coast of Santa Barbara County, particularly along the Goleta coastline. The analysis will focus on the potential oil spills and oil spill cleanup activities that could affect onshore/coastal cultural resources.

#### **4.2.9 Aesthetics/Visual Resources**

The EIR will describe visual aspects from onshore locations that have views of the platform, such as Bacara Resort, Sandpiper Golf Course, and Ellwood Mesa Open Space/Santa Barbara Shores County Park. The analysis will assess the proposed changes to the platform from the various vista points and the aesthetic effects from lighting, glare, potential oil spills, and oil spill cleanup activities.

#### **4.2.10 Mineral Resources**

The EIR will describe energy and mineral resources such as natural gas, oil, and sand and gravel in the Project vicinity and will evaluate the impacts that the Project and its alternatives may have on these resources. The analysis will focus upon area energy and mineral resources that could be affected by the construction and operation of Project components, including redrilling six wells in the South Ellwood Field.

### **4.3 SPECIAL IMPACT AREAS**

#### **4.3.1 Cumulative Impacts**

The State CEQA Guidelines require an EIR to discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (§ 15130). A cumulative impact is created through a combination of the project being analyzed in an EIR and other projects in the area causing related impacts. The EIR will:

- define the geographic scope of the area affected by cumulative effects ("Cumulative Projects Study Area"), which for the proposed Project is presently defined as the vicinity of Leases PRC 3242, PRC 3120, PRC 421, and offshore marine waters of the eastern portion of the Santa Barbara Channel;
- discuss the cumulative impacts of the proposed Project, in conjunction with other approved and reasonably foreseeable projects in the study area; and



- identify, if appropriate, feasible measures to mitigate or avoid the Project's contribution to cumulative effects.

#### **4.3.2 Growth-Inducing Impacts**

CEQA requires a discussion of the ways in which a proposed project could foster economic or population growth, including the construction of additional housing, in the project's vicinity. Under State CEQA Guidelines section 15126.2, subdivision (d), a project is growth-inducing if it fosters or removes obstacles to economic or population growth, provides new employment, extends access or services, taxes existing services, or causes development elsewhere. The EIR will contain a discussion of the potential growth-inducing impacts of the proposed Project.

#### **4.3.3 Socioeconomics and Environmental Justice**

The CSLC adopted an Environmental Justice Policy in 2002 to ensure equity and fairness in its own processes and procedures (see [www.slc.ca.gov](http://www.slc.ca.gov), under the "About Us" tab). This Policy stresses equitable treatment of all members of the public and commits to consider environmental justice in the CSLC's processes, decisions and programs. The policy is implemented, in part, through identification of, and communication with, relevant populations that could be adversely and disproportionately impacted by CSLC projects or programs, and by ensuring that a range of reasonable alternatives is identified that would minimize or eliminate environmental impacts affecting such populations.

The Environmental Justice section of the EIR will make a determination of the consistency of the proposed Project with the CSLC's Environmental Justice Policy, and analyze the distributional patterns of high-minority and low-income populations on a regional basis. The consistency analysis will focus on whether the proposed Project would have the potential to affect area(s) of high-minority population(s) and low-income communities disproportionately.

The proposed Project is located within coastal areas that support commercial fishing as an economic resource. As mentioned above, upset conditions during Project implementation could result in an oil spill. The EIR will evaluate the effects of Project implementation, as well as the implementation of Project alternatives on local commercial and recreational fishing activities in the Marine Biological Resources section.

## **GLOSSARY OF TECHNICAL TERMS**

**Bottomhole** – The bottom of a well.

**Casing** – Steel pipe cemented in place during the construction process to stabilize the wellbore. The casing forms a major structural component of the wellbore and serves several important functions: preventing the formation wall from caving into the wellbore, isolating the different formations to prevent the flow or crossflow of formation fluid, and providing a means of maintaining control of formation fluids and pressure as the well is drilled.

**Class II Injection Well** - Class II wells inject fluids associated with oil and natural gas production. Most of the injected fluid is salt water (brine), which is brought to the surface in the process of producing (extracting) oil and gas.

**Cuttings** – Rock chips cut from the formation by the drill bit, and brought to the surface with the mud.

**Electric submersible pump** – An artificial-lift system that utilizes a downhole pumping system that is electrically driven. The pump typically comprises several staged centrifugal pump sections that can be specifically configured to suit the production and wellbore characteristics of a given application.

**Gas lift** – An artificial-lift method in which gas is injected into the production tubing to reduce the hydrostatic pressure of the fluid column. The resulting reduction in bottomhole pressure allows the reservoir liquids to enter the wellbore at a higher flow rate.

**Heater-treater** – A vessel that uses heat to treat oil-water emulsions so the oil can be accepted by the pipeline or transport.

**Mud** - A mixture of base substance and additives used to lubricate the drill bit and to counteract the natural pressure of the formation.

**Oil field** – A geographic area under which an oil reservoir lies.

**Plug** – A cement seal placed in a specific location within the wellbore. Cement plugs are used for a variety of applications including zone isolation, well abandonment, or for use in sidetracking a well..

**Psig** – pounds per square inch measured by a gauge. Psig is just the difference between the measured pressure and atmospheric pressure

**Redrill** – Any drilling operation, including deviation from original well bore, to recomplete the well in the same or different geologic zone.

**Reservoir** – The underground formation where oil and gas has accumulated. It consists of a porous rock to hold the oil or gas, and a cap rock that prevents its escape.

**Separator** – A cylindrical or spherical vessel used to separate oil, gas and water from the total fluid stream produced by a well. Separators can be either horizontal or vertical. Three-phase separators handle oil, water and gas.

**Shoe** – The bottom of the casing string, including the cement around it, or the equipment run at the bottom of the casing string.

**String** – An assembled length of steel pipe configured to suit a specific wellbore. The sections of pipe are connected and lowered into a wellbore, then cemented in place. Casing is run to protect or isolate formations adjacent to the wellbore.

**Well** – Any hole drilled into the earth for the purpose of exploring for or producing oil or gas.

**Well completion** – The process of making a drilled well ready for oil and gas production.

**Workover** – The repair or stimulation of an existing production well for the purpose of restoring, prolonging or enhancing the production of hydrocarbons.